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ABSTRACT

The attitudes of teachers in a metropolitan area toward starting programs in applied biological and agricultural occupations and other vocational areas were studied in order to establish a base line of attitudes with which program implementation must start. Specific objectives were to: (1) determine the attitude of teachers toward offering such programs, (2) ascertain to what degree the teachers are prepared to teach such courses, (3) determine the willingness of teachers to become competent in teaching the courses, and (4) determine the willingness of teachers to teach the courses. The sample population was drawn from the target population of all secondary schools in the city of Chicago and the contiguous suburbs. Date were collected through an opinionnaire which was distributed by officials within the schools. Of the 661 teachers who received an opinionnaire, 273 completed and returned the instrument. The attitude of the teachers was very favorable, approximately one-fourth of the respondents indicated that they would be willing to help establish such a program, and some felt that they were competent to teach in each of the various areas. A related report is available as VT 016 146 in this issue. (GEB)

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RESEARCH SERIES IN AGRICULTURAL EDUCATION

ATTITUDES OF SUBURBAN CHICAGO TEACHERS TOWARD APPLIED BIOLOGICAL AND AGRICULTURAL OCCUPATIONS PROGRAMS

by

Hollie B. Thomas and Franklin D. R. Jackson

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Research Report

March 1972

Agricultural Education Division
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TABLE OF CONTENTS

	Page
Introduction	III-2
Definition of Problem	III-3
Procedures	III-3
Research Population	III-3
Development of the Instrument	III-4
Collection of Data	III-5
Analysis	III-6
Results	III-7
Applied Biological and Agricultural Occupations	III-7
Personal and Public Service Occupations	III-17
Health Occupations	III-19
Industrial Occupations	III-19
Business and Office Occupations	III-19
Vocational Education	III-22
Summary, Discussion, and Conclusions	III-24
Summary	III-24
Results and Discussion	III-24
Applied Biological and Agricultural Occupations	III-25
Other Vocational Areas	III-26
Conclusions	III-26
Appendix III-A, Opinionnaire for Teachers	III-29
Appendix III-B, Cover Letter	III-35

LIST OF TABLES

Table III-1 Number and Percentage of Completed Returns by School III-6

Table III-2 Frequency of Teachers Selecting the Various Responses for Items Regarding Applied Biological and Agricultural Occupations III-8

Table III-3 Frequency of Ranks Given by Teachers to Various Courses in Applied Biological and Agricultural Occupations III-14

Table III-4 Frequency of Teachers' Responses Regarding Attitudes Toward Being Competent, Willingness to Become Competent, and Willingness to Teach Various Courses in Applied Biological and Agricultural Occupations III-16

Table III-5 Frequency of Teachers Selecting the Various Responses for Items Regarding Personal and Public Service Occupations .. III-18

Table III-6 Frequency of Teachers Selecting the Various Responses for Items Regarding Health Occupations III-20

Table III-7 Frequency of Teachers Selecting the Various Responses for Items Regarding Industrial Occupations III-20

Table III-8 Frequency of Teachers Selecting the Various Responses for Items Regarding Business, Marketing and Management Occupations III-21

Table III-9 Frequency of Teachers Selecting the Various Responses for Items Regarding Vocational Education III-23

ATTITUDES OF SUBURBAN CHICAGO TEACHERS TOWARD APPLIED BIOLOGICAL AND AGRICULTURAL OCCUPATIONS

INTRODUCTION

The importance of offering vocational programs in the high school curriculum cannot be overemphasized. It is estimated that fewer than 20 percent of the job opportunities will require a four-year college degree during the 1980's. Thus it would appear that students should have the alternative of selecting mixtures of vocational-technical and academic courses while completing their high school education.

Metropolitan areas, such as Cleveland, Boston, Miami, New York, Gary, and Los Angeles, have on-going programs in applied biological and agricultural occupations. On the other hand, schools in the metropolitan area of greater Chicago have provided little, if any, vocational or prevocational education for students with an interest in occupations in applied biological and agricultural areas.

Reports have indicated that there is a deficit of qualified personnel in applied biological and agricultural occupations in the Chicago metropolitan area. It is assumed that programs to provide training for these personnel that are reportedly needed could be offered in the high schools in the metropolitan area of greater Chicago. Thus, in this phase of the study the attitude of teachers toward starting programs in applied biological and agricultural occupations was determined in order to establish a base line of attitudes with which program implementation must start. The success of a newly implemented program will depend on the active cooperation and support of the participants. It is assumed that if the school personnel and participating students have favorable attitudes toward the offering of the programs the implementation will be smoother than if they are antagonistic toward the programs.

Definition of Problem

Since the teacher is one of the most influential change agents in the school system, his perceptions of a program will effect his contribution toward the success of the program. The idiosyncrasies of the teacher, therefore, cannot be ignored when program development is contemplated. Consequently it was imperative to:

1. Determine the attitude of teachers in identified metropolitan schools toward offering programs in applied biological and agricultural occupations as well as in other areas of vocational education.

2. Ascertain to what degree teachers in these schools are prepared to teach courses in applied biological and agricultural occupations.

3. Determine the willingness of teachers to become competent in teaching courses in applied biological and agricultural occupations.

4. Determine the willingness of teachers to teach courses in applied biological and agricultural occupations.

PROCEDURES

The procedures used to select the sample of teachers, collect the data, and the nature of the analysis are included in this section.

Research Population

As a preliminary step, all secondary schools in the city of Chicago and the 46 contiguous suburbs were identified. These schools composed the research population. The schools in the city of Chicago and the suburbs were randomly ordered in two groups. The administrators of these schools were contacted to determine their willingness and ability to cooperate. The final sample was to include the teachers in the first four schools in the city of Chicago and in the 46 contiguous suburbs who were willing and able to cooperate.

School officials in the central office of the Chicago city schools did not choose to participate with the study; thus, only the suburban school building principals were contacted. The final sample included all teachers in the first four suburban schools who were willing and able to cooperate. It was necessary to contact five schools in order to obtain the desired four who would cooperate. These four schools were:

Maine Township East High School of Park Ridge
Michael High School of Evanston
Proviso East High School of Maywood
Reavis High School of Oak Lawn

Development of the Instrument

A search was conducted to determine if opinionnaires were available for collecting the type of data desired, or which could be used as references in developing an appropriate instrument. None were found. The research team drafted one-hundred and twenty items from which the final instrument was refined.

After initial refinements and elimination of unnecessary duplications, 40 items were selected. Independent judgments of research staff members were sought to aid in instrument validation. Each item was critically analyzed to determine if the possible responses elicited were contributory to the purpose of the opinionnaire. As a part of this validation procedure each item was scrutinized and judged on the basis of clarity, applicability, scorability and ease of response. A team of research consultants composed of an extension specialist in urban development and consultants in applied biological and agricultural occupations was asked to review and evaluate the items. During this process further elimination, modification and consolidation took place.

The final instrument (Appendix III-A) consisted of 30 items covering six occupational areas. These areas included: agricultural occupations, health

occupations, industrial occupations, public service occupations, home economics occupations, and business occupations.

The instrument was divided into three parts. Parts I and II dealt with the desirability of offering various programs in the high schools and the contributions such programs could make to the improvement of the student, school and community. Part III requested that the teacher indicate his competence to teach, his willingness to become competent to teach, and his willingness to teach specified subjects. It also requested him to indicate his academic qualifications and his major and minor areas of specialization.

Collection of Data

At the time the school officials were initially contacted, procedures were established for collecting the data from the schools. All school officials preferred to distribute, collect and return the opinionnaire through the school office, rather than to have the research team mail the opinionnaire directly to the teacher. The school official, guidance counselor, vocational director, or principal who distributed the opinionnaires and cover letter (Appendix III-B) typically attached a statement concerning the fact that the school was cooperating with the study.

Of the 661 teachers who were employed by the four schools selected, 273 completed and returned the opinionnaire.

As shown in Table III-1 the various schools range in percentage of returns from 27.6 to 63.0 with an overall average of 41.3 percent.

Table III-1. Number and Percentage of Completed Returns By School

School	Number of Teachers	Number Completed and Returned	Percent Returned
Maine East High School	238	150	63.0
Michael High School	77	25	32.5
Proviso East High School	177	49	27.6
Reavis High School	169	48	28.4
TOTAL	661	273	41.3

Analysis

Frequency counts were obtained to determine the frequency of the categories for each opinion item on the instrument. Frequency counts were also employed to ascertain the number of the respondents who felt they were competent to teach various areas of applied biological and agricultural occupations as well as those who were willing to become competent and those who were willing to teach in these areas.

RESULTS

The major objectives of this phase of the study was to ascertain the attitudes teachers in the metropolitan area of Chicago held toward programs in vocational education with emphasis on applied biological and agricultural occupations. Specific responses regarding the competence to teach, willingness to become competent enough to teach, and willingness to teach courses in applied biological and agricultural occupations were sought from the teachers.

The vocational areas for which attitudes were obtained were 1) applied biological and agricultural occupations, 2) personal and public service (including gainful home economics), 3) business and office occupations, 4) health occupations, 5) industrial oriented occupations, and 6) vocational education. The responses made by all teachers were grouped and frequency counts made to determine the response pattern for the various possible responses for each item.

The area of applied biological and agricultural occupations was represented in greater detail on the opinionnaire than were other vocational areas. The researchers felt that it was important to obtain an indication of the teachers' attitude toward vocational education in general.

Applied Biological and Agricultural Occupations

Table III-2 includes the data regarding the attitude of the teachers toward applied biological and agricultural occupations. Measures of attitudes concerning the value of such a program, benefits to the student, effects on the curriculum, and willingness to participate in the implementation of programs in applied biological and agricultural occupations were obtained and will be discussed in turn.

Table III-2. Frequency of Teachers Selecting the Various Responses for Items Regarding Applied Biological and Agricultural Occupations

Number	Item N=272	Responses					
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total Responses
1	Courses in applied biological and agricultural occupations could be offered in this school.	27	136	53	40	16	272
2	Courses in applied biological and agricultural occupations would be too time consuming in relation to possible benefits.	19	47	84	95	23	268
3	A program in agriculturally related occupations would be very effective and rewarding to student, school and community	18	71	80	78	24	271
6	In my opinion, courses in agriculturally related occupations would make great contributions to the overall high school program.	11	73	83	76	28	271
7	Courses in applied biological and agricultural occupations should be confined to rural schools.	15	47	54	115	38	269
8	Time spent in courses related to applied biological and agricultural occupations will hinder the chance of academic achievement beyond high school.	6	15	45	152	51	269
9	I think there will be enough students interested to justify offering courses related to agricultural occupations.	6	52	114	61	38	271

Table III-2. (con't)

Item Number	Item	Responses					
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Responses
10	Programs in applied biological and agricultural occupations if properly planned and executed could help in making the high school learning more meaningful to students.	27	158	45	33	5	268
13	Courses in related agricultural occupations would help the students in developing marketable skills.	28	59	69	91	21	268
15	I think courses in agricultural related occupations would help the students in developing marketable skills.	17	131	76	39	8	271
16	I think general science courses are providing the students with adequate information concerning related agricultural occupations, therefore, such a program is not necessary.	6	30	89	107	37	269
18	Courses in lawn care and maintenance would provide the student the opportunity of applying the theories learned in academic areas.	17	111	71	50	16	265
19	A program in agriculturally related occupations would be fine provided it does not involve me.	11	45	103	84	22	265
23	If I am not adequately qualified to teach courses I would be willing to take refresher courses.	33	81	59	57	34	264

Table III-2. (con't)

Item Number	Item N=272	Responses: Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total Responses
24	I would be willing to work a few extra hours for the success of a program in applied biological and agricultural occupations.	11	49	90	71	44	265
25	I would be willing to take on additional responsibilities if relieved of some of my present assignments.	19	74	79	57	34	263
26	Frankly, the idea of offering courses in applied biological and agricultural occupations is good, but I am not willing to take on any additional responsibility to help implement such a program unless my salary is substantially increased.	18	46	100	63	20	247

Part II		Great	Moderate	Slight	None	Negative	
	The contributions of courses related to agricultural occupations to the overall high school program would be:	23	93	115	24	10	265
	The contribution that I would be willing to make towards the success of a program in applied biological and agricultural occupations:	7	74	87	75	12	255

Opinionnaire items 1, 2, 7, 8, 16 and Part II-1 reflect attitudes concerning the value of programs in applied biological and agricultural occupations.

Of the respondents from the various schools were grouped, it was observed that a very favorable attitude existed about the value of the vocational area of applied biological and agricultural occupations of the respondents; four-fifths (59.9%) indicated that courses in applied biological and agricultural occupations could be offered in their school. Only one-fourth (24.6%) indicated that such courses would be too time consuming in relation to possible benefits, less than one-fourth (23.0%) thought these programs should be confined to rural schools, over one-half (53.5%) disagreed with the statement that general science courses are providing students with adequate information concerning agricultural related occupations, and three-fourths (75.5%) indicated that courses related to applied biological and agricultural occupations would not hinder the chance of academic achievement beyond high school while less than one-tenth (7.8%) felt that such a program would be a detriment. In Part II of the opinionnaire where the scale of great, moderate, slight, none and negative was employed it was found that most of the respondents felt that courses related to agricultural occupations would be positive in their school. The percentages for the response categories from great to negative was 8.7, 35.9, 43.4, 9.1, and 3.8 respectively.

Opinionnaire items reflecting attitudes about benefits of a program in applied biological and agricultural occupations to the student were 3, 9, 10, and 15. As shown in Table III-2 approximately one-third of the respondents indicated that they agreed, were undecided or disagreed with the statements that a program in agriculturally related occupations would be very effective

and rewarding to the student, school and community. The percentages were 32.8, 29.5, and 37.6 respectively. Over one-third (36.5%) of the respondents felt that enough students would be interested to justify offering courses related to agriculture. An additional 43.1% were undecided about the interest of students in this regard. Over two-thirds (69.0%) of the respondents felt the programs in applied biological and agricultural occupations could help make learning more meaningful to students. About one-half (54.6%) of the respondents thought that courses in agriculturally related occupations would help the students develop marketable skills.

A reflection of the teachers' attitudes about the effect of courses in applied biological and agricultural occupations on the total school program were obtained from the data in items 6, 13, and 18. As shown in Table III-2 nearly one-third (31.0%) of the respondents indicated that they felt that courses in agriculturally related occupations would make great contributions to the overall high school program. Less than one-third (32.5%) of the respondents indicated that courses related to agricultural occupations should be handled by junior colleges, community colleges, and area schools rather than their own high school. Approximately one-half (48.3%) of the respondents reported that courses in lawn care and maintenance would provide the students the opportunity to utilize the theories learned in academic areas.

One of the keys to the development of any new program in a school system is the support that the teaching staff is willing to give, including their time. Opinionnaire items 19, 24, 26, and Part II-2 were used to reflect the teachers' attitudes toward participation in implementation of programs in applied biological and agricultural occupations. As shown in Table III-2 nearly one-half (48.3%) of the respondents indicated that offering a program

in agriculturally related occupations would be fine provided that it did not involve them. Contrary to this response however is the indication by nearly one-fourth (23.3%) of the respondents indicated they would be willing to work a few extra hours for the success of a program in applied biological and agricultural occupations; one-third (33.6%) indicated they would take on additional responsibilities to help implement such programs. When asked to indicate the contribution they would be willing to make toward the success of a program in applied biological and agricultural occupations, a positive reaction was obtained. Here, using the scale of great, moderate, slight, none, and negative, the percentage of responses was 2.7, 29.0, 34.1, 29.4, and 4.7 respectively. Thus, approximately two-thirds of the respondents were willing to put some effort into seeing that such a program was a success.

The teachers were asked to rank eleven areas of applied biological and agricultural occupations in order of their preference to be included in a program of applied biological and agricultural occupations in their school. These areas were: 1) horticulture, 2) agricultural mechanics, 3) agricultural supply, 4) turf management, 5) greenhouse production, 6) nursery management, 7) small animal production, 8) parks and forestry management, 9) soil conservation, 10) animal science, and 11) environmental quality. Data concerning these ranks are included in Table III-3.

Nearly two-fifths (38.9%) of the respondents indicated their first choice as environmental quality. Other areas receiving a substantial number of first place ranks were parks and forestry management, horticulture, soil conservation, and turf management. The percentage of the respondents who ranked these areas as the most desirable of the eleven areas were 7.4, 7.0, 6.3, and 4.8 respectively. Those areas most frequently indicated as the

Table III-3. Frequency of Ranks Given by Teachers to Various Courses in Applied Biological and Agricultural Occupations

Subjects N=270	Ranks										
	1	2	3	4	5	6	7	8	9	10	11
Horticulture	19	14	20	18	25	20	9	8	16	6	6
Agricultural Mechanics	4	2	2	12	10	16	16	18	33	18	
Agricultural Supply	1	5	7	2	10	14	20	20	27	31	
Turf Management	13	11	17	9	18	18	16	14	11	8	1
Greenhouse Production	7	21	25	23	19	13	11	17	13	8	3
Nursery Management	11	17	24	16	26	16	20	11	10	6	3
Small Animal Production	1	3	9	15	19	12	15	16	17	15	1
Parks and Forestry Management	20	34	36	27	16	14	4	8	2	5	3
Soil Conservation	17	49	20	12	18	23	10	8	7	3	5
Animal Science	8	9	18	21	8	8	16	14	18	14	13
Environmental Quality	105	25	19	7	6	8	8	4	2	6	

respondents' second choice were soil conservation, parks and forestry management, environmental quality, greenhouse production, nursery management, and horticulture, the respective percentages being 18.1, 12.6, 9.3, 7.8, and 7.0.

Areas of applied biological and agricultural occupations receiving relatively few first or second place ranks included agricultural supply, small animal production, agricultural mechanics, and animal science. Consequently, these areas also received a disproportionately high number of low ranks.

Table III-4 includes data regarding the teachers' feelings about their competence in the various areas of agriculture listed, as well as their willingness to become competent and their willingness to teach these areas. For each of the eleven areas of agriculture listed, some teachers indicated that they were competent to teach in the various areas. The highest frequency of teachers indicated having competence in teaching environmental quality, while animal science and agricultural mechanics ranked second and third.

When asked if they were willing to become competent in teaching the various areas of applied biological and agricultural occupations, 10 percent or more of the respondents indicated that they were willing to become competent in the areas of horticulture, turf management, greenhouse production, nursery management, parks and forestry management, soil conservation, and animal science. Nearly one-third (29.6%) of the respondents indicated that they were willing to become competent in teaching courses in environmental quality, an area which is related to applied biological and agricultural occupations as well as to other vocational areas.

Fewer respondents were willing to teach the various areas of applied biological and agricultural occupations than were willing to become competent to teach the respective areas. Thus, it would appear that some teachers have

Table III-4. Frequency of Teachers' Responses Regarding Attitudes Toward Being Competent, Willingness to Become Competent, and Willingness to Teach Various Courses in Applied Biological and Agricultural Occupations

	Competent		Number not Responding	Willing to become Competent		Number not Responding	Willing to Teach		Number not Responding
	Yes	No		Yes	No		Yes	No	
Horticulture	6	211	53	30	168	72	16	186	78
Agricultural Mechanics	9	205	56	19	181	70	12	186	72
Agricultural Supply	3	211	56	13	185	72	5	193	72
Turf Management	6	208	56	27	174	69	16	183	71
Greenhouse Production	5	208	55	30	169	71	18	181	72
Nursery Management	2	210	58	28	171	71	13	183	74
Small Animal Production	3	211	56	21	175	74	17	181	72
Parks and Forestry Management	5	209	56	49	159	62	28	172	70
Soil Conservation	6	207	57	47	156	67	26	174	70
Animal Science	10	203	57	29	165	76	19	178	73
Environmental Quality	17	199	54	80	126	44	54	158	68

a personal interest in these areas but would not like to teach them. Over five percent of the respondents were willing to teach in the areas of horticulture, turf management, greenhouse production, small animal production, parks and forestry management, soil conservation, animal science, and environmental quality.

Personal and Public Service Occupations

Attitudes of the respondents concerning personal and public service occupations were measured by opinionnaire items 4, 5, 14, 21, and Part II-4. These items emphasized the gainful home economics occupations area in personal and public service occupations.

The data in Table III-5 shows that the respondents had a favorable attitude toward the area of personal and public service occupations. Over three-fourths (78.6%) of the respondents did not have the attitude that home economics occupations should be handled by junior colleges, community colleges or area schools rather than by their high schools.

Over four-fifths (82.7%) of the respondents thought that courses in home economics occupations would help the student develop marketable skills and nearly two-thirds (62.8%) felt that home economics occupations would make a tremendous contribution to the overall high school program. Three-fifths (60.9%) of the respondents indicated that program providing training for policemen, social workers, and firemen would involve parents and improve public relations between the school and community.

The rating scale of great, moderate, slight, none, and negative was employed to ascertain the respondents' attitude toward the contribution of courses related to home economics occupations. The percentages of responses given for each of these scale points were 36.8, 44.9, 15.5, 2.3, and 0.4 respectively.

Table III-5. Frequency of Teachers Selecting the Various Responses for Items Regarding Personal and Public Service Occupations

Item Number	Item N=272	Responses: Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Number of Responses
4	Courses related to home economics occupations should be handled by junior colleges, community colleges, or area vocational schools, rather than by this high school.	5	22	31	119	94	271
5	I think courses in home economics occupations would help the student in developing marketable skills.	68	157	25	17	5	272
14	A program in personal and public service such as training policemen, social workers and firemen would involve the parents in the school work, and improve public relations between the school and the community.	42	120	73	27	5	268
21	Courses in home economics occupations would make a tremendous contribution to the overall high school program.	51	118	65	30	5	269

Part III		Great	Moderate	Slight	None	Negative	Number of Responses
29	The contributions of courses related to home economics occupations to the overall high school program is or would be:	95	116	40	6	1	272

Health Occupations

The data regarding the single item included on the opinionnaire designed to measure attitudes concerning health occupations are included in Table III-6. Over four-fifths (82.7%) did not agree with the statement which indicated that offering courses in health occupations would reduce the quality of the overall school program. Although few conclusions can be drawn from this single item it appears that the teachers do not feel that such courses would be detrimental to their school program.

Industrial Occupations

An item concerning the willingness of the respondents to spend a few extra hours for the success of a program in industrial arts was included in the opinionnaire. Table III-7 shows that slightly less than one-third (31.2%) of the respondents indicated willingness to spend some time to insure the success of an industrial occupations program. Thus a slightly higher percentage of the respondents were willing to spend time to assist with industrial occupations than were willing to assist with programs in applied biological and agricultural occupations, the percentages being 32.2 and 23.33 respectively.

Business and Office Occupations

The respondents attitude toward business and office occupations was sampled with opinionnaire items 17 and 22. Item 17 related to both business occupations and applied biological occupations. As shown in Table III-8 the respondents reported a favorable attitude toward courses in marketing, such as advertising and marketing of fruit and vegetables as well as courses in office occupations such as stenographic and secretarial work. Percentages of positive responses for these areas was 52.0 and 62.8 respectively. Since many of the applied biological and agricultural occupations require a knowledge of business it would appear reasonable to include business courses already in

Table III-6. Frequency of Teachers Selecting the Various Responses for Items Regarding Health Occupations

Item Number	Item N=272	Responses					
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Number of Responses
11	Inclusion of courses in Health Occupations will reduce the quality of the overall high school program.	4	12	31	146	78	268

Table III-7. Frequency of Teachers Selecting the Various Responses for Items Regarding Industrial Occupations

Item Number	Item N=272	Responses					
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Number of Responses
12	I would be willing to work a few extra hours for the success of a program in Industrial Occupations.	24	59	71	70	42	266

Table III-8. Frequency of Teachers Selecting the Various Responses for Items Regarding Business, Marketing and Management Occupations

Item Number	Item N=272	Responses					
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Number of Responses
17	Courses in marketing such as advertising, marketing of fruits and vegetables, could be successfully taught in this school.	22	118	78	34	17	269
22	Courses in office occupations such as stenographic and secretarial work should be offered in this school.	51	118	65	30	5	269

existence in a curriculum designed to prepare students for occupations related to agricultural business.

Vocational Education

Data for the single opinionnaire item used to sample the attitude toward vocational education in general is reported in Table III-9. One-half (50.4%) of the respondents indicated that they were willing to accept different responsibilities while one-fourth (27.9%) indicated that they would not.

It was noted upon review of this opinionnaire item that a degree of ambiguity existed since it does not state that the additional responsibilities would be in vocational education.

Table III-9. Frequency of Teachers Selecting the Various Responses for Items Regarding Vocational Education

Item Number	Item N=272	Responses					
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Number of Responses
20	Frankly, the idea of teaching vocational education may be good but I am not willing to take on any different responsibilities.	16	57	57	96	36	262

SUMMARY, DISCUSSION AND CONCLUSIONS

Presented in this section are a summary of the procedures, discussion of results, and conclusions drawn from the findings.

Summary

The principal purpose of this phase of the research was to determine the attitudes of teachers in the suburban area of Chicago toward vocational education with emphasis on the area of applied biological and agricultural occupations. In addition, for the area of applied biological and agricultural occupations, the teachers' conception of their competence to teach, willingness to become competent, and willingness to teach were sought.

In order to obtain a random sample of teachers, schools in the 46 suburbs contiguous to the city of Chicago were randomly ordered. The schools thus ordered were contacted. Five schools were contacted in order to obtain the cooperation of four schools. The final sample included all teachers from these four schools.

Frequency counts were employed to summarize the data regarding the attitudes of the teachers. Data were collected by employing an instrument developed specifically for that purpose.

Results and Discussion

Presented in this section are the summary and discussion of the results of the analysis of the data concerning the attitudes that teachers in the suburban area of Chicago held toward vocational education with emphasis on applied biological and agricultural occupations.

Applied Biological and Agricultural Occupations. The attitude of the teachers toward applied biological and agricultural occupations was very favorable. The respondents indicated that such programs would be of value to their overall school program. Less than one-tenth of the respondents felt that including a program of applied biological and agricultural occupations in the school curriculum would be a detriment to the total program.

In general, the teachers were undecided as to whether or not enough students would be interested in such a program to justify its establishment. A majority of the respondents did, however, feel that courses in applied biological and agricultural occupations would be beneficial to the students and could make learning more meaningful to students as well as help them develop marketable skills.

Approximately one-fourth of the respondents indicated that they would be willing to contribute some effort to help establish a program in applied biological and agricultural occupations. Nearly two-thirds of the respondents indicated that they would be willing to contribute some effort into seeing that such a program was a success.

Areas of applied biological and agricultural occupations felt to be most beneficial in their school included the areas of environmental quality, parks and forestry management, horticulture, soil conservation, turf management, greenhouse production, and nursery management. Areas which the teachers did not feel were appropriate included agricultural supply, small animal production, agricultural mechanics, and animal science.

When the teachers' competence to teach, willingness to become competent to teach, and willingness to teach the various areas of applied biological and agricultural occupations were considered, it was found that some of the

respondents felt that they were competent to teach in each of the various areas. The higher frequencies were in the area of agricultural mechanics, animal science, and environmental quality. Although fewer respondents indicated they would be willing to teach these courses than indicated a willingness to become competent to teach them, it appeared that an adequate number of staff members could be identified who would be willing to teach in each of the areas included on the opinionnaire. If administrators were willing to make changes in staff loads, adequate numbers of staff could be shifted to implement programs in applied biological and agricultural occupations in the suburban schools. It would be anticipated that in-service education would be helpful for teachers making such a change.

Other Vocational Areas. The teachers' attitudes toward applied biological and agricultural occupations compared favorably with their attitudes toward the other vocational areas. It was noted that fewer respondents were willing to give of their time to assist in insuring the success of programs in applied biological and agricultural programs than were willing to assist with industrial arts programs. This, however, may have been the result of the presence of industrial arts teachers and the absence of teachers in the applied biological areas among the respondents.

Conclusions

Although the research reported teachers' attitudes toward the various areas of vocational education, the conclusions made were focused on program development in applied biological and agricultural occupations. These conclusions are:

1. Teachers in the suburban area of Chicago have a favorable attitude toward the offering of programs in applied biological and agricultural occupations in their schools.

2. Teachers have the necessary positive attitudes toward the contribution applied biological and agricultural occupations would make to their school curriculum.

3. Many teachers have the attitude that not enough students are interested in applied biological and agricultural occupations to merit offering programs; thus, the teachers need to be made aware of the student interest in the total area.

4. A significant number of teachers are willing to assist in the implementation of programs in applied biological and agricultural occupations.

5. A sufficient number of teachers are competent in the various areas of applied biological and agricultural occupations or are willing to become competent in this area. Thus, it appears that if qualified teachers cannot be hired, teachers within the school system could be shifted to teach courses in applied biological and agricultural occupations.

6. Teachers appeared to feel that the areas of applied biological and agricultural occupations related to the environment, e.g., soil conservation and parks and forestry management, would be the most desirable to offer in their school.

7. Although it appeared that the attitude toward vocational areas of applied biological and agricultural occupations received a slightly poorer rating than for other vocational areas, the researchers were pleasantly surprised at the amount of positive response. Hence, optimism was created by the results.

APPENDIX III-A

OPINIONNAIRE FOR TEACHERS

OPINIONNAIRE FOR TEACHERS

Name _____ Age_____ Sex _____

Home Address_____ Telephone _____

Present Position _____ Length of Time in Position _____

Name of School _____ Location _____

Subject/Subjects Teaching _____

Directions. Please encircle the response which best describes your feelings towards each statement.

Code. SA = Strongly Agree U = Undecided DA = Disagree
A = Agree SDA = Strongly Disagree

	SA	A	U	DA	SDA
1. Courses in Applied Biological and Agricultural Occupations could be offered in this school.	1	2	3	4	5
2. Courses in Applied Biological and Agricultural Occupations would be too time consuming in relation to possible benefits.	1	2	3	4	5
3. A program in agriculturally related occupations would be very effective and rewarding to student, school and community.	1	2	3	4	5
4. Courses related to Home Economics Occupations should be handled by junior colleges or community colleges, or area vocational schools, rather than by this high school.	1	2	3	4	5
5. I think courses in Home Economics Occupations would help the student in developing marketable skills.	1	2	3	4	5
6. In my opinion, courses in agriculturally related occupations would make great contributions to the overall high school program.	1	2	3	4	5
7. Courses in Applied Biological and Agricultural Occupations should be confined to rural schools.	1	2	3	4	5
8. Time spent in courses related to Applied Biological and Agriculture Occupations will hinder the chance of academic achievement beyond high school.	1	2	3	4	5

		SA	A	U	DA	SDA
9.	I think there will be enough students interested to justify offering courses related to agricultural occupations.	1	2	3	4	5
10.	Programs in Applied Biological and Agricultural Occupations if properly planned and executed could help in making the high school learning more meaningful to students.	1	2	3	4	5
11.	Inclusion of courses in Health Occupations will reduce the quality of the overall high school program.	1	2	3	4	5
12.	I would be willing to work a few extra hours for the success of a program in Industrial Arts.	1	2	3	4	5
13.	Courses in related agricultural occupations should be handled by junior colleges, community colleges and area agricultural schools rather than by this high school.	1	2	3	4	5
14.	A program in Personal and Public Service such as training policemen, social workers and firemen would involve the parents in the school work, and improve public relations between the school and the community.	1	2	3	4	5
15.	I think courses in Agricultural related occupations would help the students in developing marketable skills.	1	2	3	4	5
16.	I think general science courses are providing the students with adequate information concerning related agricultural occupations, therefore, such a program is not necessary.	1	2	3	4	5
17.	Courses in marketing such as advertising, marketing of fruit and vegetables, could be successfully taught in this school.	1	2	3	4	5
18.	Courses in lawn care and maintenance would provide the student the opportunity of applying the theories learned in academic areas.	1	2	3	4	5
19.	A program in agriculturally related occupations would be fine provided it does not involve me.	1	2	3	4	5
20.	Frankly, the idea of teaching vocational education may be good but I am not willing to take on any different responsibilities.	1	2	3	4	5

		SA	A	U	DA	SDA
21.	Courses in Home Economics Occupations would make a tremendous contribution to the overall high school program.	1	2	3	4	5
22.	Courses in Office Occupations such as stenographic and secretarial work should be offered in this school.	1	2	3	4	5
23.	If I am not adequately qualified to teach courses I would be willing to take refresher courses.	1	2	3	4	5
24.	I would be willing to work a few extra hours for the success of a program in Applied Biological and Agricultural Occupations.	1	2	3	4	5
25.	I would be willing to take on additional responsibilities if relieved of some of my present assignments.	1	2	3	4	5
26.	Frankly, the idea of offering courses in Applied Biological and Agricultural Occupations is good, but I am not willing to take on any additional responsibility to help implement such a program unless my salary is substantially increased.	1	2	3	4	5

Please make comments:

Part II

Please encircle the response which is most appropriate for each of the following statements.

1. The contributions of courses related to agricultural occupations to the overall high school program would be:

    a. great
    b. moderate
    c. slight
    d. none
    e. negative

2. The contribution that I would be willing to make towards the success of a program in Applied Biological and Agricultural Occupations:

    a. great
    b. moderate
    c. slight
    d. none
    e. negative

3. The courses in Applied Biological and Agricultural Occupations that I would like to have included in the program may be ranked as follows: (Please rank from most important to least important).

    _____horticulture _____agricultural mechanics _____agricultural supply

    _____turf management _____greenhouse production _____nursery management

    _____small animal production _____parks and forestry management _____soil

    conservation _____animal science _____environmental quality.

    Please list and rank others: _____ _____

    _____

    _____

4. The contribution of courses related to Home Economics Occupations to the overall high school program is or would be:

    a. great
    b. moderate
    c. slight
    d. none
    e. negative

Please check the following blanks indicating your feeling towards being involved in the teaching of the following subjects by indicating (A) your competence in the area, (B) your willingness to become competent in the area, and (C) your willingness to teach in the area.

Subjects	A Competent Yes	A Competent No	B Willing to become competent Yes	B Willing to become competent No	C Willing to teach Yes	C Willing to teach No
Horticulture	___	___	___	___	___	___
Agricultural Mechanics	___	___	___	___	___	___
Agricultural Supply	___	___	___	___	___	___
Turf Management	___	___	___	___	___	___
Greenhouse Production	___	___	___	___	___	___
Nursery Management	___	___	___	___	___	___
Small Animal Production	___	___	___	___	___	___
Parks and Forestry Management	___	___	___	___	___	___
Soil Conservation	___	___	___	___	___	___
Animal Science	___	___	___	___	___	___
Environmental Quality	___	___	___	___	___	___

If you have checked "yes" in column C, please complete the following:

1. Encircle the academic certificate or degree that you have earned and write your major/minor in the blanks provided.

   a. Provisional certificate _____

   b. B.S., B.A.--Major _____ Minor _____

   c. M.S., M.A.--Major _____ Minor _____

   d. Advanced Certificate _____

   e. Doctorate--Major _____ Minor _____

APPENDIX III-B

COVER LETTER

February 1, 1971

Dear Teacher:

The Vocational and Technical Education staff at the University of Illinois at Urbana-Champaign has initiated a project to determine the attitude of Teachers in the metropolitan area of Chicago towards Applied Biological and Agricultural Occupations and other areas of Vocational Education. Vocational Education in Applied Biological and Agricultural Occupations is comprised of the group of related courses or units of subject matter which are organized for carrying on learning experiences concerned with preparation for or upgrading in occupations requiring knowledge and skills in agricultural subjects. Such occupations include: ornamental horticulture, forestry, greenhouse production, small animal production, animal care, lawn care and management, fruit and vegetable production, small engine care and maintenance, and home gardening.

Your school has been selected as a representative school of the greater metropolitan Chicago area. We are asking teachers in the representative school to react to items on the attached opinionnaire in order to ascertain their opinions regarding the desirability of offering various types of vocational programs with emphasis on Applied Biological and Agricultural Occupations. You may express your opinion by encircling the most appropriate response to each statement on the opinionnaire. We feel that the results of our study will be of interest to you and your school.

Please note that the information from the opinionnaire will be used in assisting us in planning programs in Applied Biological and Agricultural Occupations in the metropolitan area of Chicago. Kindly return the completed opinionnaire in the enclosed envelope.

Sincerely,

Hollie B. Thomas, Director
Metropolitan Agriculture Programs
359 Education Building

Ali Ammadi, Staff
Franklin Jackson, Staff
William Lundell, Staff
Art Neavill, Staff

HBT:nf
Enclosures